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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/660,549

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Juha Salokannel

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EXAMINER

WENDELL, ANDREW

ART UNIT

PAPER NUMBER

2618

DATE MAILED: 10/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/660,549	<b>Applicant(s)</b> SALOKANNEL ET AL.	
	<b>Examiner</b> Andrew Wendell	<b>Art Unit</b> 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on 09 August 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-43 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 24 is objected to because of the following informalities: "The method" on line of the claim is dependent to a system claim. Appropriate correction is required.

Note, "The system" would be an appropriate fix.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2, 4, 8-10, 13-15, 17, 19, 21, 24-29, 31, 32-38, and 40-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wynbeek (US Pat Appl# 2003/0032422) in view of Yoshii et al. (US Pat# 6,993,343).

Regarding claim 1, method claim 1 is rejected for the same reason as system claim 14 since the recited elements would perform the claimed steps.

Regarding claim 2, method claim 2 is rejected for the same reason as system claim 15 since the recited elements would perform the claimed steps.

Regarding claim 4, method claim 4 is rejected for the same reason as system claim 17 since the recited elements would perform the claimed steps.

Regarding claim 8, the combination including Yoshii et al. teaches performing error control processing for the communications link according to the error control data (Col. 5 line 66-Col. 6 line 20).

Regarding claim 9, the combination including Wynbeek teaches wherein the second wireless communications link communicates data at significantly lower data transfer rates than the UWB transmission link (Section 0016).

Regarding claim 10, method claim 10 is rejected for the same reason as system claim 21 since the recited elements would perform the claimed steps.

Regarding claim 13, method claim 13 is rejected for the same reason as system claim 20 since the recited elements would perform the claimed steps.

Regarding claim 14, Wynbeek's asymmetric wireless communication system using two different radio technologies teaches a first communications module for performing wireless communications via a first communications link 208 and 228 (Fig. 2, Ultra Wideband); second communications module for performing wireless communications via a second communications link 207 and 223 (Fig. 2, carrier wave); wherein the first wireless communications link is a UWB transmission link for communicating data at very high data transfer rates (Sections 0017 and 0022) and the second wireless communications link is a different type of wireless communications link (Section 0015, carrier wave). Wynbeek fails to teach a link for communicating error control data.

Yoshii et al. base station device and wireless communication teaches a link for communicating error control data (Col. 5 line 66-Col. 6 line 20).

Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art at the time the invention was made to incorporate a link for communicating error control data as taught by Yoshii et al. into Wynbeek's

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communication system in order to increase efficiency and quality of the system (Col. 2 lines 27-35).

Regarding claim 15, the combination including Yoshii et al. teaches wherein the error control data is Automatic Repeat Request (ARQ) data (Col. 5 line 66-Col. 6 line 20).

Regarding claim 17, the combination including Wynbeek teaches wherein the UWB communications link continuously transmits payload data (Sections 0017 and 0022).

Regarding claim 19, the combination including Yoshii et al. teaches performing error control processing for the communications link according to the error control data (Col. 5 line 66-Col. 6 line 20).

Regarding claim 20, the combination including Wynbeek teaches wherein the second communication module performing communications across the second wireless communications link communicates data at significantly lower data transfer rates than the first communications module performing communications across the UWB link (Section 0016).

Regarding claim 21, the combination including Wynbeek teaches wherein the second wireless communications link is a short-range communications link (Section 0015).

Regarding claim 24, the combination including Wynbeek teaches wherein at least one of the first and second communications modules includes a link manager sub-module for establishing the first and second wireless communications links (Fig. 2). It is

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obvious there is a link manager in order to carry out communication with other communication devices.

Regarding claim 25, system claim 25 is rejected for the same reason as system claim 14 since the recited elements would perform the claimed steps.

Regarding claim 26, computer-readable medium claim 26 is rejected for the same reason as system claim 14 since the recited elements would perform the claimed steps.

Regarding claim 27, method claim 27 is rejected for the same reason as system claim 14 since the recited elements would perform the claimed steps. Wynbeek also teaches wherein the first wireless communications link enables communication at a significantly higher data rate than the second wireless communications link (Section 0016).

Regarding claim 28, the combination including Yoshii et al. teaches wherein the second wireless communications link frees the first wireless communications link from communicating bi-directional error control data overhead (Col. 5 line 66-Col. 6 line 20).

Regarding claim 29, method claim 29 is rejected for the same reason as system claim 15 since the recited elements would perform the claimed steps.

Regarding claim 31, the combination including Wynbeek teaches wherein the first wireless communications link is a UWB communications link 208 and 228 (Fig. 2).

Regarding claim 32, Wynbeek teaches a UWB transmission link is arranged and a second wireless communication link (Fig. 2). Wynbeek fails to teach error control data.

Yoshii teaches wherein a payload transmission across the transmission link is arranged based on the error control data received across the second wireless communication link (Col. 5 line 66-Col. 6 line 20).

Regarding claim 33, Wynbeek teaches a UWB transmission link is arranged and a second wireless communication link (Fig. 2). Wynbeek fails to teach error control data.

Yoshii teaches wherein a payload transmission across the transmission link is arranged based on the error control data received across the second wireless communication link (Col. 5 line 66-Col. 6 line 20).

Regarding claim 34, Wynbeek teaches a UWB transmission link is arranged and a second wireless communication link (Fig. 2). Wynbeek fails to teach error control data.

Yoshii teaches wherein a payload transmission across the transmission link is arranged based on the error control data received across the second wireless communication link (Col. 5 line 66-Col. 6 line 20).

Regarding claim 35, Wynbeek teaches a UWB transmission link is arranged and a second wireless communication link (Fig. 2). Wynbeek fails to teach error control data.

Yoshii teaches wherein a payload transmission across the transmission link is arranged based on the error control data received across the second wireless communication link (Col. 5 line 66-Col. 6 line 20).

Regarding claim 36, Wynbeek teaches a UWB transmission link is arranged and a second wireless communication link (Fig. 2). Wynbeek fails to teach error control data.

Yoshii teaches wherein a payload transmission across the transmission link is arranged based on the error control data received across the second wireless communication link (Col. 5 line 66-Col. 6 line 20).

Regarding claim 37, apparatus claim 37 is rejected for the same reason as system claim 14 since the recited elements would perform the claimed steps.

Regarding claim 38, the combination including Wynbeek teaches wherein the first communications module transmits payload data (Sections 0016-0018).

Regarding claim 40, the combination including Yoshii teaches wherein the second communications module includes an interface for providing the error control data (Col. 5 line 66-Col. 6 line 20).

Regarding claim 41, the combination including Yoshii teaches wherein the second communications module includes an interface for obtaining the error control data (Col. 5 line 66-Col. 6 line 20).

Regarding claim 42, apparatus claim 42 is rejected for the same reason as system claim 14 since the recited elements would perform the claimed steps.

Regarding claim 43, apparatus claim 43 is rejected for the same reason as system claim 14 since the recited elements would perform the claimed steps.

3. Claims 3, 16, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wynbeek (US Pat Appl# 2003/0032422) in view of Yoshii et al. (US Pat#



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6,993,343) as applied to claims 14 and 15 above, and further in view of Grilli et al. (US Pat Appl# 2005/0193309).

Regarding claim 3, method claim 3 is rejected for the same reason as system claim 16 since the recited elements would perform the claimed steps.

Regarding claim 16, Wynbeek's asymmetric wireless communication system using two different radio technologies in view of Yoshii et al. base station device and wireless communication teaches the limitations in claims 14 and 15. Wynbeek and Yoshii et al. fail to teach acknowledgement data.

Grilli et al. forward error correction coding above a radio link control layer and related apparatus teaches wherein the ARQ data includes Acknowledgement (ACK) data identifying a packet type, block number, sequence numbers and number of sequence numbers (Sections 102-156).

Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art at the time the invention was made to incorporate acknowledgement data as taught by Grilli et al. into a link for communicating error control data as taught by Yoshii et al. into Wynbeek's communication system in order to increase efficiency (Section 0014).

Regarding claim 30, method claim 30 is rejected for the same reason as system claim 16 since the recited elements would perform the claimed steps.

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wynbeek (US Pat Appl# 2003/0032422) in view of Yoshii et al. (US Pat# 6,993,343) as applied to claim 1 above, and further in view of Batra et al. (US Pat Appl# 2005/0078598).

Regarding claim 5, Wynbeek's asymmetric wireless communication system using two different radio technologies in view of Yoshii et al. base station device and wireless communication teaches the limitations in claim 1. Wynbeek and Yoshii et al. fail to teach a data field and header.

Batra et al. enhancement to the multi-band OFDM physical layer teaches at least one data field including a sequence number, actual data and error correction field; and a header portion including information identifying a number of data fields in the block, information identifying the length of the data fields, information identifying the length of the last data field, a block number, a continuation bit and an error correction field (Fig. 7 and 9).

Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art at the time the invention was made to incorporate a data field and header as taught by Batra et al. into a link for communicating error control data as taught by Yoshii et al. into Wynbeek's communication system in order to improve and reduce packet errors (Section 0039).

5. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wynbeek (US Pat Appl# 2003/0032422) in view of Yoshii et al. (US Pat# 6,993,343) further in view of Batra et al. (US Pat Appl# 2005/0078598) and further in view of Choi (US Pat Appl# 2004/0219897).

Regarding claim 6, Wynbeek's asymmetric wireless communication system using two different radio technologies in view of Yoshii et al. base station device and wireless communication and further in view of Batra et al. enhancement to the multi-band OFDM

physical layer teaches the limitations in claims 1 and 5. Wynbeek, Yoshii et al., and Batra et al. fail to teach changing data fields.

Choi's method for ultra wideband wireless communication using channel information teaches wherein UWB transmissions is adaptable according to link quality of the UWB transmission link by changing a length of the data fields in the transmission of subsequent blocks according to an evaluation of a current data block (Section 0003).

Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art at the time the invention was made to incorporate changing data fields as taught by Choi into a data field and header as taught by Batra et al. into a link for communicating error control data as taught by Yoshii et al. into Wynbeek's communication system in order to reduce interference (Section 0012).

6. Claims 7, 12, 18, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wynbeek (US Pat Appl# 2003/0032422) in view of Yoshii et al. (US Pat# 6,993,343) as applied to claim 14 above, and further in view of Hochmair et al. (US Pat Appl# 2005/0283207).

Regarding claim 7, method claim 7 is rejected for the same reason as system claim 18 since the recited elements would perform the claimed steps.

Regarding claim 12, method claim 12 is rejected for the same reason as system claim 23 since the recited elements would perform the claimed steps.

Regarding claim 18, Wynbeek's asymmetric wireless communication system using two different radio technologies in view of Yoshii et al. base station device and

wireless communication teaches the limitations in claim 14. Wynbeek and Yoshii et al. fail to teach unidirectional communication.

Hochmair et al. low power signal transmission teaches wherein the UWB communications link is unidirectional (Section 0009).

Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art at the time the invention was made to incorporate unidirectional communication as taught by Hochmair et al. into a link for communicating error control data as taught by Yoshii et al. into Wynbeek's communication system in order to lower power consumption (Section 0007).

Regarding claim 23, Hochmair et al. further teaches wherein the UWB communications link provides for communications between two or more devices (Section 0009).

7. Claims 11, 22, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wynbeek (US Pat Appl# 2003/0032422) in view of Yoshii et al. (US Pat# 6,993,343) as applied to claim 14 above, and further in view of Kotzin (US Pat Appl# 2004/0204076).

Regarding claim 11, method claim 11 is rejected for the same reason as system claim 22 since the recited elements would perform the claimed steps.

Regarding claim 22, Wynbeek's asymmetric wireless communication system using two different radio technologies in view of Yoshii et al. base station device and wireless communication teaches the limitations in claim 14. Wynbeek and Yoshii et al. fail to teach Bluetooth communication.

Kotzin's subscriber device for enhancing interfaces thereto teaches wherein the second wireless short-range communications link is a Bluetooth communications link (Section 0014).

Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art at the time the invention was made to incorporate Bluetooth communication as taught by Kotzin into a link for communicating error control data as taught by Yoshii et al. into Wynbeek's communication system in order to increase batter life and have flexible interface (Section 0002).

Regarding claim 39, Kotzin further teaches a communications module receives payload data and transmits data (Fig. 2).

***Response to Arguments***

Applicant's Remarks	Examiner's Response
"However, as is evident from the above cited portions of Yoshii, the Yohsii reference only discloses a general level indication that ARQ can be performed as one example of error control data in wireless systems without providing any kind of teaching or suggestion that error control data for a first wireless communications link can or would be transmitted between the devices through a	The claim is broad enough for the Yohsii reference to read on the claim limitations. Yohsii does teach a first communications link being a transmitter on a base station. Yohsii teaches a second communications link being a receiver on the base station. When the transmitted link has a detected error, the base station receives on the second link error data. The Yohsii reference teaches a standard error control

second wireless communications link.  Furthermore, the Examiner has not provided any proper motivational basis for combining or modifying the references in the suggested manner to read on the claims."	system and since the claim is broad, the Yoshii reference teaches the limitations. Wynbeek and Yoshii are proper for combining because both references teach a communication device that is capable of transmitting and receiving communications links.
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***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Wendell whose telephone number is 571-272-0557. The examiner can normally be reached on 7:30-5 M-F.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on 571-272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Andrew Wendell  
Examiner  
Art Unit 2618

10/03/2006

 10/13/06

QUOCHIEN B. VUONG  
PRIMARY EXAMINER